

NOTE ON SOME BRITISH COCCIDÆ (No. 4).

BY J. W. DOUGLAS, F.E.S.

LECANIUM ALIENUM, *n. sp.*

For three or four years past a house-fern (*Asplenium bulbiferum*) has been infested with a *Lecanium* to that extent that the fronds have withered under the constant attacks of the individuals that, in all stages of life and overlaying each other, cover them constantly except in the winter months.

When young the scales are flat and yellowish, very like *L. hesperidum* at the same age; at a later stage they mostly become faintly maculated. When full-grown they are, at the maximum, $3\frac{1}{2}$ mm. long by $2\frac{3}{4}$ mm. broad at the widest part, forming a long oval much widened posteriorly, convex, pale greenish-yellow, the disc with fuscous, coarse, irregular reticulation, anteriorly and posteriorly forming wide, darker transverse patches or bands, the meshes having rounded pale centres, but in the middle of the disc, on each side of a broad, dark longitudinal line, the ground-colour shows as a large pale patch, and similarly as two smaller spots anteriorly; on the dark median line are usually 4—5 very minute yellow elevations in a row; the prominent anal point above the fissure deeper yellowish; the margin wide but scarcely flattened, with strong, black-dotted, transverse, parallel lines throughout. On the under-side the body of the insect is pale anteriorly, fuscous-black posteriorly; the antennæ pale, of seven joints, of which the 3rd is the longest. The adult scales always cover oval yellow embryonic active larvæ, so that the females are doubtless viviparous. When removed from the fronds and dried the adult scales become of a uniform pale brown, and the sides curve under, so that the form is changed. I have not found a male.

In form this species is somewhat like *L. acuminatum*, Sign., but that is only 2—3 mm. long, and appears to be without markings.

It differs from *L. angustatum*, which is narrow throughout, 4—5 mm. long by 2 mm. broad, of a clear yellow colour (apparently without markings), smooth and very flat; whereas this is wide posteriorly, distinctly convex, and is marked as stated.

It appears to resemble *L. maculatum*, Sign., only in being elongate oval, but that is a more regular oval, and has a median series of 8 or 9 brownish spots, which it is stated specially distinguish it from *L. hesperidum*.

The reticulation seems to ally it to *L. tessellatum*, Sign., the form of which is given as broad-oval, much rounded posteriorly, and somewhat flattened, the colour is red-brown, the size $3\frac{1}{2}$ mm. by 3 mm., and the surface exhibits throughout a design of marquetry of irregular fine lined pattern, without other marking; whereas in *L. alienum* the form is long-oval, convex, and the reticulation and markings are formed of strong, dotted, dark lines.

The form and character of these four species are well displayed in Signoret's pl. xi, figs. 1—4.

LECANIUM HIBERNACULORUM, Boisd.

This is described as rather more than 5 mm. in length, $3\frac{1}{2}$ mm. wide, and 3 mm. high, of a reddish-brown colour, globulous, forming more than a hemisphere; the surface with a somewhat regular punctuation of oval pits with a clearer central point, without perceptibly widened margin.

In February Mr. H. W. Bates sent to me from a fern in his greenhouse several scales of a *Lecanium* full of pink eggs. These scales agree in some respects with the foregoing description, but differ in the size being at most only $5 \times 3 \times 2$ mm., in the form being broad, obtuse-oval, very convex, but not globulous, and in having 4—6 very minute, scarcely perceptible, distant tubercles in a line along the middle of the back. Dr. Signoret, however, who has seen some of the scales, is of opinion they must be referred to this species.

In October last Mr. T. R. Billups sent me from a house-fern some scales in every respect like the foregoing, except that they are about half the size, and of the colour of *café au lait*. I judged they were the young form of *L. hibernaculorum*, and Dr. Signoret confirms this opinion. In May I received from Mr. P. Cameron of Sale, on various hothouse plants, fully grown and coloured scales, from which the minute tubercles above mentioned had quite disappeared. There seems to be just a possibility that the young form with the row of tubercles may indicate *L. maculatum*, Sign.

LECANIUM HEMISPHERICUM, Targ.-Tozz.

The ♀ scale is described as circular, hemispheric, the margin broadly flattened, red-brown and more or less shaded in the adult, $3\frac{1}{2}$ mm. long, 3 mm. broad, and 2 mm. high.

From a hothouse at Canterbury Mr. G. S. Saunders, in February, obtained on an orchid and a fern some scales which fairly agree with the above description, except that they are yellow-brown, the margin comparatively slight, and the size less, 3 mm. by $2\frac{1}{2}$ mm. by $1\frac{1}{2}$ mm.

I submitted one of the scales to Dr. Signoret, and he coincides with me in thinking it is *L. hemisphericum* in the young state.

In April Mr. P. Cameron sent, on several hothouse plants from Sale, larger, darker, and more developed scales of this species, and the number of similar forms simultaneously cause me to doubt if there is any reason for Signoret's query if *L. hibernaculorum* is only a large and redder form of *L. hemisphericum*; they seem to me to have very distinct characters, which, although they vary somewhat according to age, yet never have an identical aspect.

LECANIUM ULMI, Linn.

In the "Fauna Suecica," p. 265, No. 1019, Linné first noted his *Coccus ulmi campestris*: "Habitat in ulmo campestri;" in the "Systema Naturæ," p. 740, No. 9, he repeats this without any description, refers to the F. S. No. 1019, and to Geoffr. Paris, 512, No. 7; this, however, should be 507, No. 8,* which is Geoffroy's *Chermes ulmi rotundus*, thus described:—

"Il est rond, sphérique, brun, de la grosseur et de la couleur des bayes de genièvre. Il s'attache aux petites branches de l'orme, qui quelquefois en sont si chargées, qu'elles ressemblent à des grappes."

I find such brown ♀ scales in May on elm bushes in several places in Lewisham, also ♂ scales a week or two earlier from which I obtain the imago.

Walker omits *Lecanium ulmi* from his "List of British Hemiptera (Coccidæ)," 1860, although Stephens had long previously included it in his "Systematic Catalogue of British Insects," ii, 368, 9993 (1829), as *Coccus ulmi*, Linn., giving a reference to De Geer, v (should be vi), pl. 28, fig. 7.

De Geer in his "Mémoires, vi, 436, thus writes:—

"Gallinsecte ovale blanche, à bandes transversales brunes, de l'orme.

Coccus (ovatus ulmi) *ovatus albus fusco transverse striatus, ulmi*.

Coccus ulmi campestris, Linn., Faun., Ed. 2, No. 1019. Syst., Ed. 12, p. 740, No. 9.

Chermes ulmi rotundus, Geoffr., Ins., Tom. i, p. 507, No. 8. Le Kermes de l'orme (pl. 28, fig. 7).

"Ces Gallinsectes sont de figure ovale, un peu pointue à l'un des bouts, que je crois être le derriere; elles sont très-convexes en dessus, mais plates ou un peu concaves du côté qui est appliqué sur la branche; leur surface est polie, lisse et un peu luisante. Elles sont blanches et ornées de bandes transversales brunes, de sorte qu'elles ne ressemblent pas mal au ventre de quelques especes d'Araignées; mais quelquefois on en trouve de toutes brunes."

Now, it is in this country that the wholly brown scales, mentioned as exceptional by De Geer, are the only ones found, and the banded sort appear to be scarce elsewhere also, for Signoret says respecting them (Ess. Cochin., p. 263), "Under the name of *fasciatum* Costa indicates a species figured by De Geer, pl. 28, figs. 7—10, which has

* I follow Signoret and others in this. The want of a description by Linné makes his *Coccus ulmi* obscure, and the doubt as to his meaning is not lessened by his reference to "Geoffr. paris, 512, No. 7," for there is no such No. 7. It is true that Geoffroy, at p. 512, No. 3, has a "*Coccus ulmi*, corpore fusco, serico albo," and a reference to "Réaumur, Ins., iv, t. 7, f. 1, 2, 6, 9, Le cochinelle de l'Orme," yet this is not cited by any author but Schrank (Faun. Boic., 145, 1264) as the species intended by Linné. Schrank's *Coccus ulmi* is really the above *Coccus* (*Gossyparia*) *ulmi*, Geoffr., as is shown by his description and reference to Réaumur iv, t. 7, f. 1—10; and it is worthy of note that Réaumur is not cited by Linné for his *C. ulmi*. Fabricius (E. S., iv, 225) cites for *Coccus ulmi*, Linn., "Geoffr., 507, 8; De Geer, vi, 406, pl. 28, 7," which refer to a *Lecanium*; but by his description "*Clypeus rufescens margine villosa, albido*," he apparently intends *Coccus ulmi*, Geoffr. I believe, therefore, that Linné's *Coccus ulmi* is rightly a *Lecanium*.

transverse fasciæ (described above). We think that this species is only a variety of *ulmi*, which is fasciated under certain circumstances, as we have taken the opportunity to remark respecting *tiliæ*, *corni*, &c., and which may be caused by an unhealthy condition, or by the insect not having been fecundated, or by other unknown circumstances." I may, I think, add that this marking may exist only in the young stage of life, in the same manner that maculation of the scale is frequently observed then in other species, and that it disappears when the insect becomes adult.

Signoret (Ess. Cochin., p. 262) says of this species :—

"The scale is chestnut-brown, round, hemispheric, very convex, 7 mm. long by 5 wide and high, appearing smooth under a lens, but under the microscope showing the punctuation and tessellation of *L. pyri*, *corni*, *tiliæ*, and others.

"This species, very near to those described above, is distinguished by having seven joints in the antennæ, the 3rd hairless, very long, as long as the 4th, 5th, and 6th together, these three and the 7th very short and nearly equal; the legs stout, the tarsus one time shorter than the tibia, the claw strong, the digitules very short and slender, those of the claw not extending beyond it; the anal lobes with four hairs on the outer and two on the inner side, the genital ring with eight hairs.

"The male is small, yellow; antennæ of six joints, of which the 4th is the longest, the others diminishing consecutively to the 10th, which is very short, and has two knobbed hairs larger than the others. The pigmentary circle has ten eyes, four large and six small, or ocelli. The thorax has a broad, brown, transverse band. The abdomen a little less broad, diminishes to its extremity, which has the two ordinary long filaments, and the stylet which is as long as the abdomen; the last segment has two small tubercles near the insertion of the filaments. The elytra are transparent, with a tint a little shaded towards the margin. The halteres are stout, and have two filaments at the extremity. The legs are very long and pubescent; the tarsi one-fifth of the length of the tibia."

I thought it desirable to transcribe the foregoing description, not only as a definition of the species, but in order to show the nature and the minuteness of the characters relied upon for specific distinctions in this genus.

LECANIUM ALNI, Modeer.

In the "Göteborgska Vetenskaps Handlingar," i, 23 (1778), Modeer described a *Coccus alni* thus: "Female oblong-ovate, convex, light brown-reddish, without wool or farinose matter (utan ull eller doft); on the angles or axils of branches of alder trees."

On the 24th December last, at Lewisham, on an alder tree (*Alnus glutinosa*) growing by the side of a pond, I found such scales as these, evidently a *Lecanium*; of course they were of the previous season and were discoloured, but I made a mental note that in the spring I

would go again and get some scales of the male, but in April when I visited the place, I found to my disgust, that it had been appropriated for building purposes, the water had been drained off, the trees were dead, and there were no scales. It was not until June 9th that I succeeded in finding some ♀ scales of the *Lecanium* on an alder tree at Catford, and then it was too late to obtain male scales.

There can be no doubt that this is the *Lecanium alni* of Modeer; the special mention of the absence of wool or farinosity shows clearly that it cannot belong to the genus *Gossyparia*, as Signoret puts it (Ess. Cochin., 319). Whether the species is the *Coccus ulmi*, Linn., as I think is probable, is to be proved; *Lecanium alni*, Modeer, is given without any synonym by Walker in his list of British species. *Coccus alni*, Schrank, Fauna Boica, 144, 159, may well be Modeer's species, though it is not cited. De Geer does not notice the *Coccus alni* of Modeer, but he remarks with reference to the scales he found on willow (*C. rotundus salicis*, De G.), that he found some quite similar to them on alder, and he considered them to be of the same species (Mém., T. vi, p. 442).

PULVINARIA CAMELLICOLA, Sign.

On January 29th last Mr. Parfitt sent me from a greenhouse at Exeter a leaf of camellia on the under-side of which were several yellowish, extremely flat, oval scales, but two of them had a slightly raised brownish line down the middle. They were so like the scales of *L. hesperidum* that I deemed they were that species, which is found on many different plants; and having pinned down the leaf so as to prevent its warping, I put them in a box on one side. Looking at the leaf on February 23rd I saw that all the scales except two had dried and become loose. Of the two one remained fixed, and underneath was a developed male, dead and adherent to the scale; the other scale had disappeared, and in its place was a white, slightly convex, smooth, shining scale, which, when I attempted to raise it with a needle, broke and disclosed a male imago alive. The head, eyes, antennæ, thorax, legs, and abdomen were wholly yolk-yellow, the antennæ thickly set with short projecting hairs, the two anal filaments snow-white, the broad wings smoke-white, sub-opaque, the costal area and also the adjacent ordinary nerve faintly tinged with pink.

The male of *L. hesperidum*, and indeed of all the species of that group, being entirely unknown (excepting the very ambiguous *L. lauri*, Boisd.), I hesitated as to the name; since then I am convinced that this is the male of *Pulvinaria camellicola*, Sign., the

description thereof agreeing exactly with my example ; and I am the more induced to this belief that in April Mr. P. Cameron of Sale sent me, on a camellia leaf, two ovisacs of *P. camellicola*, ♀ (*c.f.* vol. xxii, p. 159), to one of which the yellowish scale remained attached, and with them a white scale of the male, precisely like that from which the male insect had emerged in February, but the perfect insect did not now come out, having died *in situ*. Signoret says that the scale of *P. camellicola* greatly resembles that of *L. hesperidum*, but the female of the latter species is viviparous, and so has no ovisac internal or external of the scale.

On May 18th, though too late for male scales, I found several female scales still attached to the peculiar, long, white ovisacs, forming conspicuous objects on the under-side of leaves of camellias, at Mr. Stainton's ; so the species does not seem to be uncommon.

8, Beaufort Gardens, Lewisham :

July 10th, 1886.

CATEREMNA TEREURELLA, ZK. ; A *PHYCID* NEW TO THE
BRITISH LIST.

BY LORD WALSINGHAM, M.A., F.L.S., &c.

PHYCITA TEREURELLA, Zincken.

Germar & Zincken, *Magazin d'Entomologie*, iii, B. S., 162, No. 33.

This species is No. 598, p. 229, in Staudinger and Wocke's Catalogue of the Lepidoptera of Europe, and is well figured by Herrich-Schäffer, vol. iv, fig. 199, under the name of *Myelois tereurella*. Treitschke, who places it in the genus *Phycis*, quotes a good description of its habits in the larval stage, on the authority of Von Tischer.

On the 26th of July I observed, near the garden here, some small aborted cones on a well-grown tree of *Abies Douglasii*. These cones usually formed part of a group of three or four, the others being fully developed. They were from an inch to an inch and a half in length, and had apparently become dried up and shrivelled before the formation of the seeds or the growth of the woody scales. The first I examined contained a living pupa, which was unfortunately crushed ; in the second I found a larva, and, as I immediately recognised that its habits differed from those of *Nephopteryx decuriella*, Hb. (*abietella*, S. V.), I collected as many as I could find, and within the next two days specimens of a *Phycid*, obviously new to the